RACAL INSTRUMENTS™

1260-37

SWITCH MODULE

Publication No. 980673-024 Rev. A

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Before undertaking any troubleshooting, maintenance or exploratory procedure, read carefully the **WARNINGS** and **CAUTION** notices.



This equipment contains voltage hazardous to human life and safety, and is capable of inflicting personal injury.



If this instrument is to be powered from the AC line (mains) through an autotransformer, ensure the common connector is connected to the neutral (earth pole) of the power supply.



Before operating the unit, ensure the conductor (green wire) is connected to the ground (earth) conductor of the power outlet. Do not use a two-conductor extension cord or a three-prong/two-prong adapter. This will defeat the protective feature of the third conductor in the power cord.



Maintenance and calibration procedures sometimes call for operation of the unit with power applied and protective covers removed. Read the procedures and heed warnings to avoid "live" circuit points.

Before operating this instrument:

1. Ensure the proper fuse is in place for the power source to operate.

2. Ensure all other devices connected to or in proximity to this instrument are properly grounded or connected to the protective third-wire earth ground.

If the instrument:

- fails to operate satisfactorily
- shows visible damage
- has been stored under unfavorable conditions
- has sustained stress

Do not operate until performance is checked by qualified personnel.

EC Declaration of Conformity

We

Astronics Test Systems
4 Goodyear
Irvine, CA 92618

declare under sole responsibility that the

1260-37 Switch Module, P/N 407353
1260-37A Switch Module, P/N 407353-001

They conform to the following Product Specifications:

Safety: EN61010-1:1993+A2:1995

EMC: EN61326:1997+A1:1998

Supplementary Information:

The above specifications are met when the product is installed in an Astronics Test Systems certified mainframe with faceplates installed over all unused slots, as applicable

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC (modified by 93/68/EEC).

Irvine, CA, April 26, 2002 ______________________
Engineering Director

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NOTE FOR SYSTEMS WITH 1260-OPT 01T

The “Module-Specific Syntax” section of this manual shows the command syntax for the 1260-01S Smart Card. If you are using the newer 1260-01T Smart Card, the commands will NOT work as shown.

Consult the 1260-01T Manual for a description of the commands which may be used with the 1260-01T Smart Card.

The channel numbers described in this manual are valid for the 1260-01T. The channel numbers continue to be used for the 1260-01T.

The syntax of the commands which use channel numbers has changed for those cards controlled by the 1260-01T.

The new syntax used to close a channel is:

CLOSE (@ <module address> (<channel>))

For example, with for a relay module whose <module address> is set to 7, closing <channel> 0 is performed with the command:

CLOSE (@ 7 (0))

Using the older 1260-01S, the command would be (as shown in this manual):

CLOSE 7.0

Many other command syntax differences exist. Please consult chapter 2 of the 1260-01T manual for a description of the commands which are available for the 1260-01T.

Control Information for the 1260-37A

The following information describes the control-register-to-relay-channel mapping for a 1260-37A Relay Module. This information may be used to control a 1260-37A when using a 1260-01T in the register-based mode of operation.

The table below shows the mapping between logical channels used to operate the relay module in message-based mode and the bits within the Control Registers which may be used to operate the channel in register-based mode.

Each Control Register is located 2 addresses from the previous Control Register. This is shown in Table 2-2 of the 1260-01T manual. Control Register 0 is located at the “Base A24 Address” for the module. Consult the “Register-Based Operation” Section of Chapter 2 of the 1260-01T manual for a description of calculating control register addresses.

Each channel between 0 and 23 (inclusive) is operated by setting or clearing two bits in parallel. One bit in each of two different Control Registers must be set to operate these channels as a 4-wire MUX.

Channels 100 through 139 are each operated by a single bit of a single Control Register.

Channel	Control Register	Control Bit
0	0 and 3	0
1	0 and 3	1
2	0 and 3	2
3	0 and 3	3
4	0 and 3	4
5	0 and 3	5
6	0 and 3	6
7	0 and 3	7
8	1 and 4	0
9	1 and 4	1
10	1 and 4	2
11	1 and 4	3
12	1 and 4	4
13	1 and 4	5
14	1 and 4	6
15	1 and 4	7
16	2 and 5	0
17	2 and 5	1
18	2 and 5	2
19	2 and 5	3
20	2 and 5	4
21	2 and 5	5
22	2 and 5	6
23	2 and 5	7
100	6	0
101	6	1
102	6	2
103	6	3
104	6	4
105	6	5
106	6	6
107	6	7
108	7	0
109	7	1

Channel	Control Register	Control Bit
110	7	2
111	7	3
112	7	4
113	7	5
114	7	6
115	7	7
116	8	0
117	8	1
118	8	2
119	8	3
120	8	4
121	8	5
122	8	6
123	8	7
124	9	0
125	9	1
126	9	2
127	9	3
128	9	4
129	9	5
130	9	6
131	9	7
132	10	0
133	10	1
134	10	2
135	10	3
136	10	4
137	10	5
138	10	6
139	10	7

Control Information for the 1260-37B

The following information describes the control-register-to-relay-channel mapping for a 1260-37B Relay Module. This information may be used to control a 1260-37B when using a 1260-01T in the register-based mode of operation.

Each relay on this module is controlled by setting or clearing a single bit. Control Registers on the module operate 8 channels simultaneously. There are eight control bits per Control Register. Setting the bit to a 1 closes the relay; setting the bit to a 0 opens the relay.

The table below shows the mapping between logical channels used to operate the relay module in message-based mode and the bits within the Control Registers which may be used to operate the channel in register-based mode.

Each Control Register is located 2 addresses from the previous Control Register. This is shown in Table 2-2 of the 1260-01T manual. Control Register 0 is located at the “Base A24 Address” for the module. Consult the “Register-Based Operation” Section of Chapter 2 of the 1260-01T manual for a description of calculating control register addresses.

Channel	Control Register	Control Bit
0	0	0
1	0	1
2	0	2
3	0	3
4	0	4
5	0	5
6	0	6
7	0	7
8	1	0
9	1	1
10	1	2
11	1	3
12	1	4
13	1	5
14	1	6
15	1	7
16	2	0
17	2	1
18	2	2
19	2	3
20	2	4
21	2	5
22	2	6
23	2	7
24	3	0
25	3	1
26	3	2
27	3	3
28	3	4
29	3	5
30	3	6
31	3	7
32	4	0
33	4	1
34	4	2
35	4	3
36	4	4
37	4	5

Channel	Control Register	Control Bit
38	4	6
39	4	7
40	5	0
41	5	1
42	5	2
43	5	3
44	5	4
45	5	5
46	5	6
47	5	7
48	12	0
100	6	0
101	6	1
102	6	2
103	6	3
104	6	4
105	6	5
106	6	6
107	6	7
108	7	0
109	7	1
110	7	2
111	7	3
112	7	4
113	7	5
114	7	6
115	7	7
116	8	0
117	8	1
118	8	2
119	8	3
120	8	4
121	8	5
122	8	6
123	8	7
124	9	0
125	9	1
126	9	2
127	9	3
128	9	4
129	9	5
130	9	6
131	9	7
132	10	0
133	10	1
134	10	2
135	10	3
136	10	4
137	10	5
138	10	6
139	10	7

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Table of Contents

List of Figures

List of Tables

DOCUMENT CHANGE HISTORY

Revision	Date	Description of Change
A	01/11/10	Revised per EO 30004. Revised format to current standards. Company name revised throughout manual. Manual now revision letter controlled. Added Document Change History Page v. Back of cover sheet. Revised Warranty Statement, Return of Product, Proprietary Notice and Disclaimer to current standards. (Chap2-1) Unpacking and inspection. Revise to current standards. Removed Reshipment Instructions in (Chap. 2-1) and removed (Chap 5). Information. Now appears in first 2 sheets behind cover sheet. Updated table of contents to reflect changes made. . Added company name to footer opposite page no’s i thru vi.

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Chapter 1

MODULE SPECIFICATION

1260-37 Module Specification

The 1260-37 switch module consists of two switch circuits; a 1 x 48 Signal Multiplexer/Scanner and a 40-Channel SPDT Switch. The Signal Multiplexer circuit switches two lines per channel, and has the capability of being configured as one 1 x 48 multiplexer, two 1 x 24 multiplexers, four 1 x 12 multiplexers, or eight 1 x 6 multiplexers. The signal mulitplexer configuration is user selectable, but is supplied from the factory in the one 1 x 48 two-wire mode. In addition, the multiplexer may be configured as a one-wire 1 x 96 multiplexer. A block diagram of this circuit is shown in **Figure 3-1**. The 40 channel SPDT switch circuit provides 40 independent channels of switching. Each channel features one common line that connects to either a normally open or normally closed position. A block diagram of this circuit is shown in **Figure 3-2**.

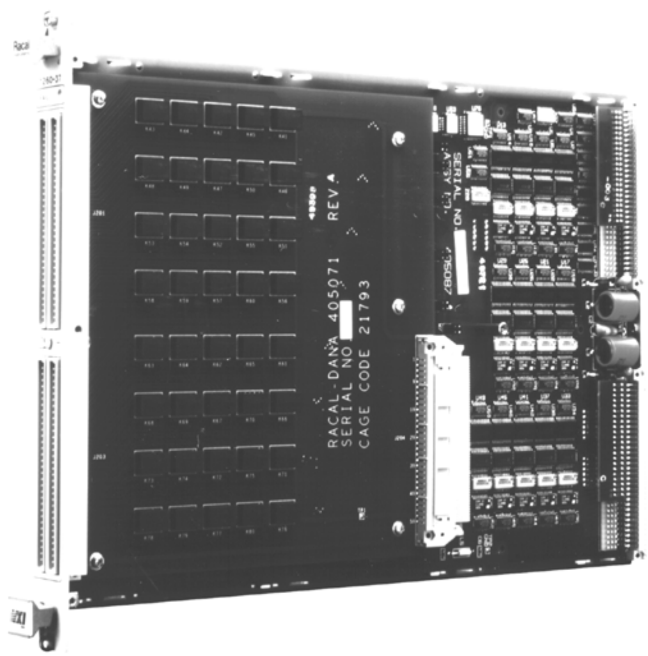


Figure 1-1, 1260-37 Switching Card

Specifications

1 x 48 Signal Multiplexer/Scanner

Switch Configurations	Four-wire mode (any configuration) Two-wire mode (any configuration)
Maximum Switchable Voltage (Terminal-Terminal or Terminal-Chassis)	250 VDC, 250 VAC RMS
Maximum Switchable Current (Per Channel)	1A, DC or AC RMS
Maximum Switchable Power (Per Channel)	30 WDC, 62.5 VA AC
Path Resistance	<0.30Ω (1 x 6 configuration) <0.50Ω (1 x 48 configuration)
Isolation Hi-Lo	> 7.5 x 10^8 Ω
Capacitance	
Open Channel	< 50pf (1x 6 configuration)
Channel-Chassis	< 50pf (1x 6 configuration) <300pf (1x 48 configuration)
HI-LO	< 80pf (1x 6 configuration) <400pf (1x 48 configuration)
Bandwidth (50Ω Termination)	>35 MHz (1 x 6 configuration) >15 MHz (1 x 48 configuration)
Insertion Loss (50Ω Termination) 1 x 6 Configuration	<.1 dB to 100 kHz <.5 dB to 1 MHz <1 dB to 10 MHz
Insertion Loss (50Ω Termination) 1 x 48 Configuration	<.1 dB to 100kHz <1.0 dB to 1 MHz <1.0 dB to 10 MHz
Crosstalk (50Ω Termination)	<-40 dB to 100 kHz <-35 dB to 1 MHz <-15 dB to 10MHz
Isolation	>45 dB to 100kHz >40 dB to 1 MHz >33 dB to 10MHz
Switching Time	2 mS

40 Channel SPDT Switch

Maximum Switchable Voltage (Terminal-Terminal or Terminal Chassis)	250 VDC, 250 VAC RMS
Maximum Switchable Current1 A,DC or AC RMS (Per Channel)	
Maximum Switchable Power (Per Channel)	30 WDC, 62.5 VA AC
Path Resistance	<0.5 Ω
DC Isolation COM-NO	>2x 10^9 Ω
Bandwidth (50Ω termination)	>35 MHz
Insertion Loss (50Ω termination)	<.1 dB to 100kHz <.5 dB to 1 MHz <1 dB to 10 MHz (typical)
Crosstalk (50Ω termination)	<-40 dB to 100 kHz <-35 dB to 1 MHz <-20 dB to 10 MHz
Isolation (50Ω termination)	> 40 dB to 100 kHz > 35 dB to 1 MHz > 28 dB to 10 MHz
Switching Time	2 mS
Cooling Requirements	
Airflow	4 liters/sec
Backpressure	0.5mm of Hg
Power Requirements (lmp)	+5V without Option 0l = 400mA +5V with Option 0l = 2.5A +24V = l0mA per relay
Weight	1.26kg (2.771bs) without Option 0l 1.41kg (3.lllbs) with Option 0l
User Connector	64-Pin (2 Row) IDC Quick Disconnect*
Minimum Firmware Revision	

Option 0l	23.1

*A crimp connector kit is also available for this module (P/N 404975-003). A strain relief option can be ordered separately for this crimp connector kit.

Ordering Information

Model Number	Description	Part Number
1260-37	1 x 48 Signal Multiplexer/ Scanner, 40-Channel, SPDT Switch	407353

Safety

Refer to the "**FOR YOUR SAFETY**" page preceding the Table of Contents. Follow all **NOTES**, **CAUTIONS** and **WARNINGS** to ensure personal safety and prevent damage to the instrument.

Chapter 2

INSTALLATION INSTRUCTIONS

Unpacking and Inspection

1. Remove the 1260-37 module and inspect it for damage. If any damage is apparent, inform the carrier immediately. Retain shipping carton and packing material for the carrier's inspection.

2. Verify that the pieces in the package you received contain the correct 1260-37 module option and the 1260-37 Users Manual. Notify Customer Support if the module appears damaged in any way. Do not attempt to install a damaged module into a VXI chassis.

3. The 1260-37 module is shipped in an anti-static bag to prevent electrostatic damage to the module. Do not remove the module from the anti-static bag unless it is in a static-controlled area.

Option 01 Installation

Installation of the Option 01 to the 1260-37 is described in the Installation Section of the 1260 Series VXIbus Switching Cards Manual.

Module Installation

Installation of the 1260-37 Switching Module into a VXIbus mainframe, including the setting of DIP switches, is described in the Installation Section of the 1260 Series VXIbus Switching Cards Manual. Configuration of the motherboard PCB and setting DIP switches S1-5 and S1-6 are described in the following sections.

1260-37 ID Byte

There are two configurations for the 1260-37 Signal Multiplexer/Scanner circuit; two-wire and four-wire. Each configuration responds to different sets of values for <channel number>. The set of values the 1260-37 responds to is controlled by switch 5 on DIP switch 51 on the main PCB. The switch settings that correspond to the two configurations are as follows:

Configuration	S1 Switch 5	S1 Switch 6
Four-wire	Off	Off
Two-wire	On	Off

Configuration Jumpers

The 1260-37 Scanner/Multiplexer circuit is a user configurable switching circuit. It may be configured to any one of eight different configurations as shown below. The 1260-37 SPDT switch circuit is not configurable.

1) Eight 1 x 6 two-wire scanner/multiplexers

2) Four 1 x 6 four-wire scanner/multiplexers

3) Four 1 x 12 two-wire scanner/multiplexers

4) Two 1 x 12 four-wire scanner/multiplexers

5) Two 1 x 24 two-wire scanner/multiplexers

6) One 1 x 24 four-wire scanner/multiplexers

7) One 1 x 48 two-wire scanner/multiplexers

8) One 1 x 96 one wire scanner/multiplexer

The 1260-37 Scanner/Multiplexer circuit is shipped from the factory in the 1 x 48 two-wire configuration. **Table 2-1** gives the information necessary to configure the module into the other possible configurations. Note that the Scanner/ Multiplexer circuit front panel connections are at J200 and J202 while the SPDT switch connections are at J201 and J203.

Table 2-1, 1260-37 Multiplexer/Scanner Circuit Jumper Installation

An X indicates a jumper is to be installed. An (X) indicates the jumper is optional, depending on whether access to the analog bus is required. A blank indicates no jumper is to be installed.

	8(1X6) 2-Wire	**4(1X6) 4-Wire**	**4(1x12) 2-Wire**	**2(1X12) 4-Wire**	**2(1X24) 2-Wire**	**1(1X24) 4-Wire**	**1(1X48) 2-Wire**	**1(1X96) 1-Wire**
W2A,B							(X)	(X)
W3A,B			X	X	X	X	X	X
W4A,B					X	X	X	X
W5A,B			X	X	X	X	X	X
W6A,B							X	X
W8A,B			X	X	X	X	X	X
W9A,B					X	X	X	X
W10A,B			X	X	X	X	X	X
W11A,B								**X**

Analog Bus

In two of the above configurations, the 1260-37 Scanner/Multiplexer circuit may be configured to access the analog bus (refer to **Figure 3-1**). The analog bus allows expansion for the configuration of larger scanner/multiplexers than the module may achieve alone. This is accomplished by providing access to a common bus channel which may be daisy chained to other multiplexer modules via the front panel

To connect the module to the analog bus, install jumpers W2A and W2B on the motherboard PCB.

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Chapter 3

MODULE SPECIFIC SYNTAX

1260-37 Module Specific Syntax

The Module Specific Syntax for the 1260-37 Signal Multiplexer/SPDT Switch is required in the use of the OPEN and CLOSE commands. It will also appear in data output by the Master in response to the PDATAOUT and PSETUP commands.

Syntax

The Module Specific Syntax for the 1260-37 module is as follows:

<module address> .<channel>[;<module address> <channel>]

where <module address> is the switch card address.
<channel number> is the relay to be closed to connect an input to the output.

Note that Channels remain closed until opened by an OPEN or RESET command, VXI hard or soft reset, or power-off.

NOTE:

The <module address> used here is <u>not</u> the VXIbus defined logical address of the 1260 Series Master. It is particular to the 1260 Series and describes the switching module in relation to the Master. This address corresponds to the binary value of the switch setting of SW1 on the switching module PCB.

The range of values for <channel> is:

Multiplexer/Scanner:	One-wire	00-48
	Two-wire	00-47
	Four-wire	00-23.
	SPDT Switch	100-139

Note that the SPDT circuit channel number is preceded by a “1” to distinguish it from the Multiplexer/Scanner circuit. For the SPDT circuit, Channels 00 to 39 correspond to channels 100 to 139 in the command syntax.

The actual mapping of channel number to connector pins for the Scanner/Multiplexer circuit is given in **Table 3-1**, and for the SPDT circuit in **Figure 3-2**. **Figure 3-3** shows the physical location of the 64-pin (2 Row) connector pins. Note that the Scanner /Multiplexer circuit front panel connections are at J200 and J202 while the SPDT switch connections are at J201 and J203.

CLOSE and OPEN Command

The module specific syntax for the CLOSE command is the same as for the OPEN command. Examples are shown below.

For switch card address 7, channels 00, 19, 117, 123:

CLOSE 7.00;7.19;7.l 17;7.123
OPEN 7.00;7.19;7.l 17;7.123

PSETUP Command

The PSETUP command causes the specified module setup to be transmitted to the VXI Controller. The syntax used is:

PSETUP <module address>[;<module address>]
[;<module address>]

where <module address> is the switch card address.

The responses to the PSETUP command for the 1260-37 Scanner/Multiplexer / SPDT is as follows:

1260-37: Two-wire

<module address>. 1260-37, Two-wire Scanner/Multiplexer / SPDT Module
<module address>.B BM
<module address>.END

1260-37: Four-wire

<module address>. 1260-37, Four-wire Scanner/Multiplexer / SPDT Module
<module address>.BBM
<module address> END

The response to the PSETUP command consists of a header on the first line. The header describes the model number, followed by a four-wire or two-wire to indicate the module setup. The next line designates the setup mode for scanning which, by default, is Break-Before-Make (BBM). The last line containing the "END" characters denotes that there is no more information to report

PDATAOUT Command

The PDATAOUT command causes the specified module to transmit the state of the relays CLOSED within the switch module to the 1260 Controller. The syntax used is:

PDATAOUT <module address> [<module address>]
[;<module address>]

The responses to the PDATAOUT command is as follows:

1260-37: Two-wire

<module address>.1260-37 Two-wire Scanner/Multiplexer / SPDT Module
<module address> .<channel>[,<channel>] [,<channe l>]
<module address>.END

1260-37 Four-wire

<module address>.1260-37, Four-wire Scanner/Multiplexer / SPDT Module
<module address>.<channel>[,<channel>] [,<channel>]
<module address>.END

The response to the PDATAOUT command consists of a header on the first line as with the PSETUP response. The next line details the channels currently closed on the module, and is blank when no channels are closed. Again, the last line is denoted by the "END" string of characters.

Operation In Single-Wire Mode

The 1260-37 is delivered with all jumpers installed (refer to **Table 2-1**). In this configuration, the module is a 1 x 48 two-wire multiplexer (refer to **Figure 3-1**).

Channel 48 is a single pole, double throw (SPDT) relay with its common channel connected to J202, pin B2. The normally closed (NC) contact is connected to the "LO" side of the two-wire common bus, and the normally open (NO) contact is connected to the "HI" side of the common bus.

The common output of channel 48 is the single channel of the 96 x I multiplexer, and the 48 HI and 48 LO connections make up the 96 channels. By closing the appropriate channel (0-47) and opening or closing channel 48, a 96 x I multiplexer is achieved.

Table 3-1, 1260-37 Multiplexer/Scanner Circuit Channel Closure

Channel interconnect for 1, 2 and 4-wire modes.

1-wire mode:

<channel>	<channel> output	<channel> input
(channel 48 open) 0 thru 47	always J202- 132	(see 2-wire mode channels 0-47 input pins b-side of channel)
(channel 48 closed) 0 thru 47	always J202- 132	(see 2-wire mode channels 0-47 input pins a-side of channel)

Thus, a one 1 x 96 1-wire mode is acheived.

2-wire mode:

<channel>	<channel> output pins A / b (HI) (LO)	<channel> input pins A / b (HI) (LO)
0	J200- A30 / B30	J200- A29 / B29
1	J200- A30 / B30	J200- A28 / B28
2	J200- A30 / B30	J200- A27 / B27
3	J200- A30 / B30	J200- A26 / B26
4	J200- A30 / B30	J200- A25 / B25
5	J200- A30 / B30	J200- A24 / B24
6	J200- A23 / B23	J200- A22 / B22
7	J200- A23 / B23	J200- A21 / B21
8	J200- A23 / B23	J200- A20 / B20
9	J200- A23 / B23	J200- A19 / B19
10	J200- A23 / B23	J200- A18 / B18
11	J200- A23 / B23	J200- A17 / B17
12	J200- A16 / B16	J200- A15 / B15
13	J200- A16 / B16	J200- A14 / B14
14	J200- A16 / B16	J200- A13 / B13
15	J200- A16 / B16	J200- A12 / B12
16	J200- A16 / B16	J200- A11 / B11
17	J200- A16 / B16	J200- A10 / B10
18	J200- A9 / B9	J200- A8 / B8

<channel>	<channel> output pins A / b (HI) (LO)	<channel> input pins A / b (HI) (LO)
19	J200- A9 / B9	J200- A7 / B7
20	J200- A9 / B9	J200- A6 / B6
21	J200- A9 / B9	J200- A5 / B5
22	J200- A9 / B9	J200- A4 / B4
23	J200- A9 / B9	J200- A3 / B3
24	J202- A30 / B30	J202- A29 / B29
25	J202- A30 / B30	J202- A28 / B28
26	J202- A30 / B30	J202- A27 / B27
27	J202- A30 / B30	J202- A26 / B26
28	J202- A30 / B30	J202- A25 / B25
29	J202- A30 / B30	J202- A24 / B24
30	J202- A23 / B23	J202- A22 / B22
31	J202- A23 / B23	J202- A21 / B21
32	J202- A23 / B23	J202- A20 / B20
33	J202- A23 / B23	J202- A19 / B19
34	J202- A23 / B23	J202- A18 / B18
35	J202- A23 / B23	J202- A17 / B17
36	J202- A16 / B16	J202- A15 / B15
37	J202- A16 / B16	J202- A14 / B14
38	J202- A16 / B16	J202- A13 / B13
39	J202- A16 / B16	J202- A12 / B12
40	J202- A16 / B16	J202- A11 / B11
41	J202- A16 / B16	J202- A10 / B10
42	J202- A9 / B9	J202- A8 / B8
43	J202- A9 / B9	J202- A7 / B7
44	J202- A9 / B9	J202- A6 / B6
45	J202- A9 / B9	J202- A5 / B5
46	J202- A9 / B9	J202- A4 / B4
47	J202- A9 / B9	J202- A3 / B3

48 (not used in 2-wire mode)

4-wire mode:

<channel>	refer to the following 2-wire channels for the input/output pins
0	0, 24
1	1, 25
2	2, 26
3	3, 27
4	4, 28
5	5, 29
6	6, 30
7	7, 31
8	8, 32
9	9, 33
10	10, 34
11	11, 35
12	12, 36
13	13, 37
14	14, 38
15	15, 39
16	16, 40
17	17, 41
18	18, 42
19	19, 43
20	20, 44
21	21, 45
22	22, 46
23	23, 47

48 (not used in 4-wire mode)

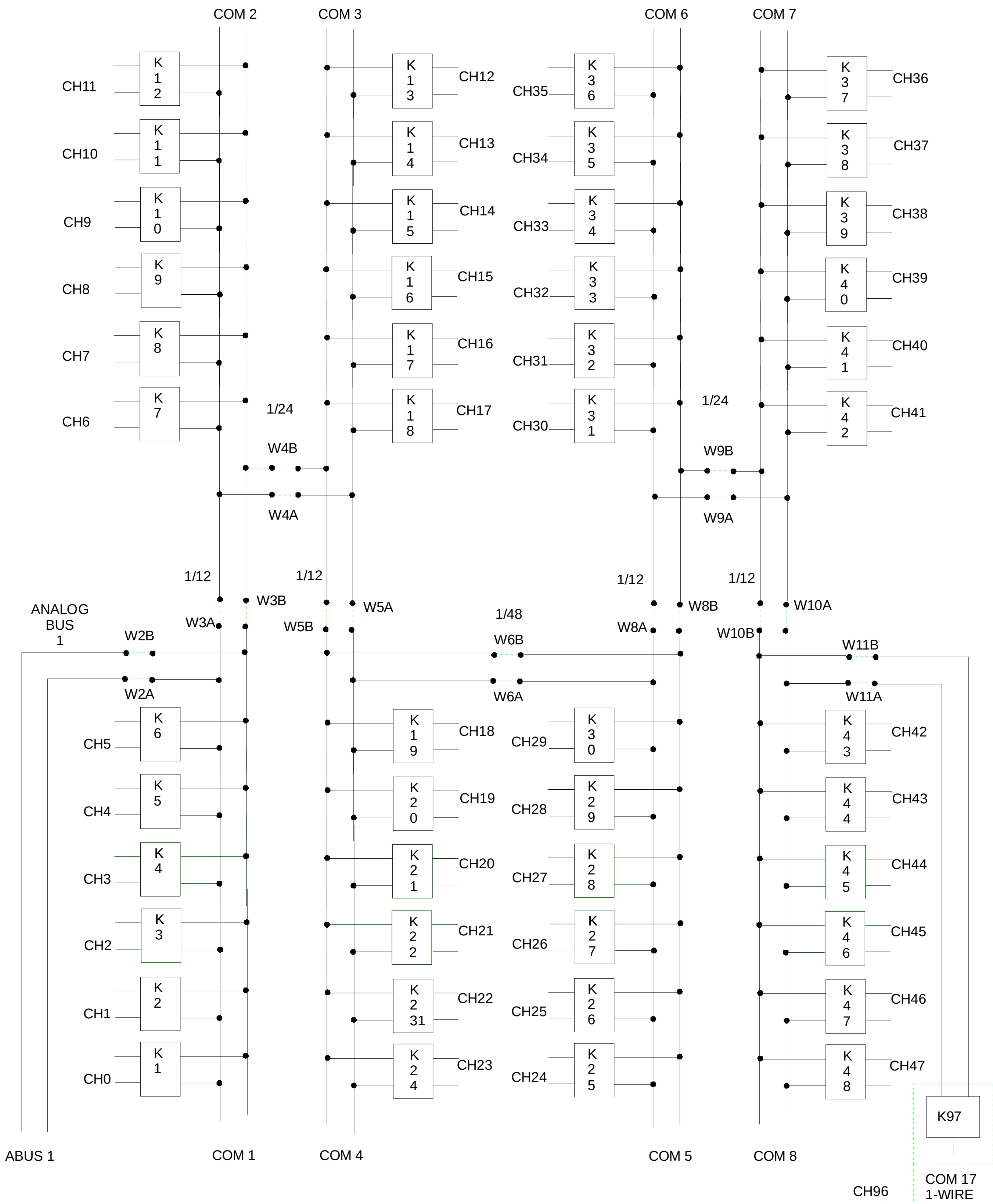


Figure 3-1, 1260-37 Multiplexer/Scanner Circuit Block Diagram

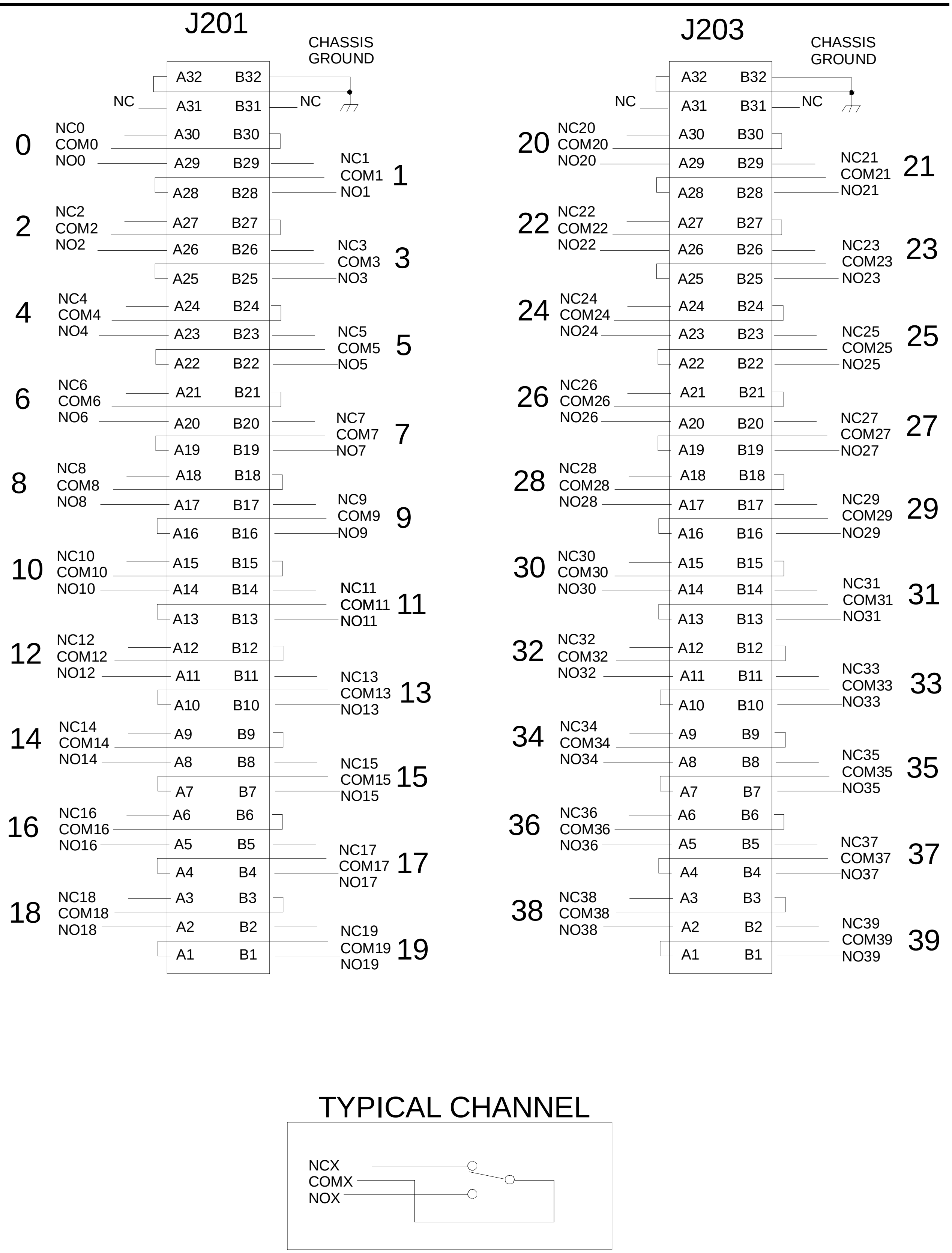


Figure 3-2, 1260-37 40-Channel SPDT Circuit Block Diagram

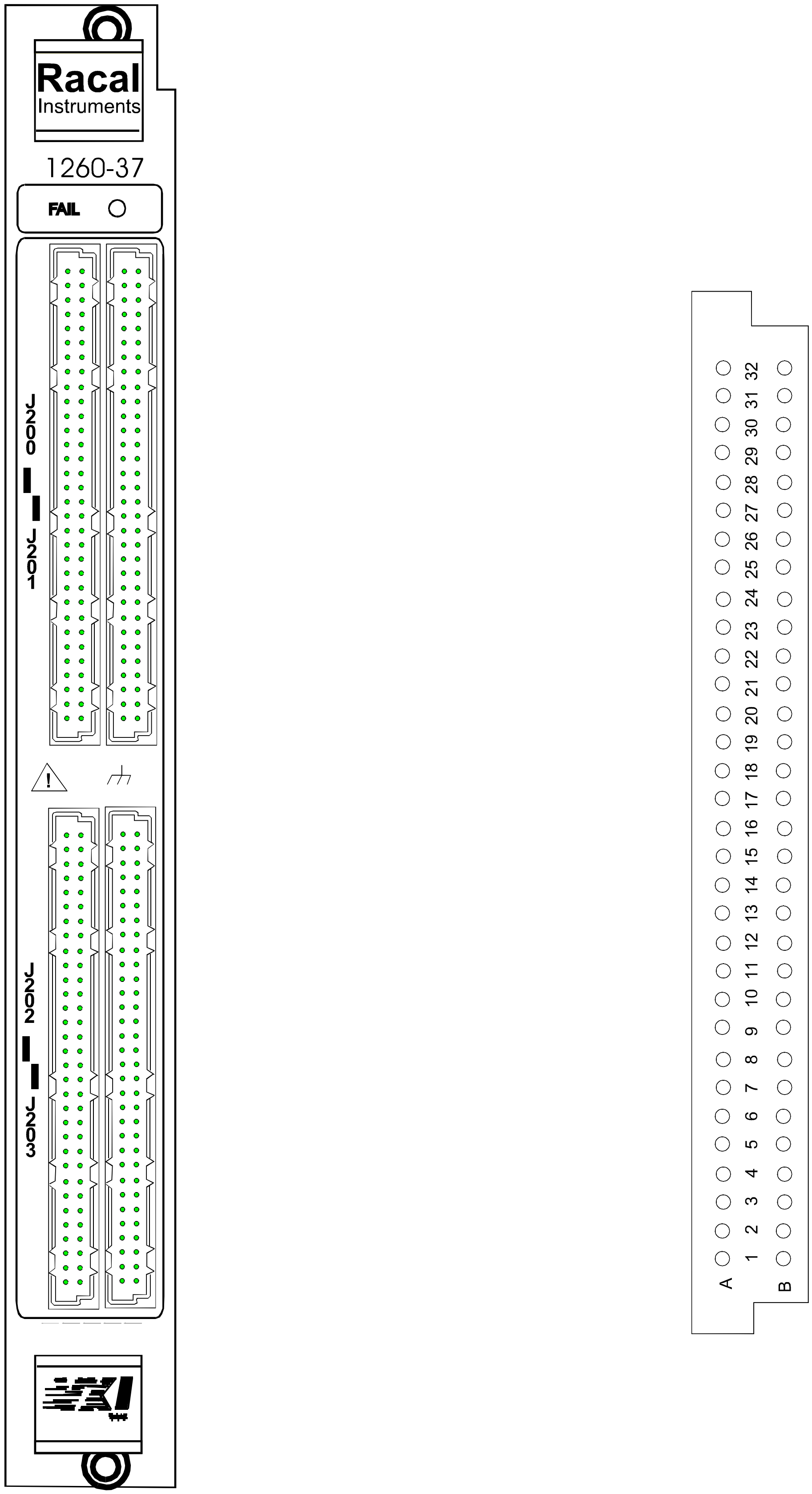


Figure 3-3, 1260-37 Pin Connections

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Chapter 4

OPTIONAL HARNESS ASSEMBLIES

The following harness assemblies are used to connect 1260-37 to Freedom Series Test Receiver Interfaces.

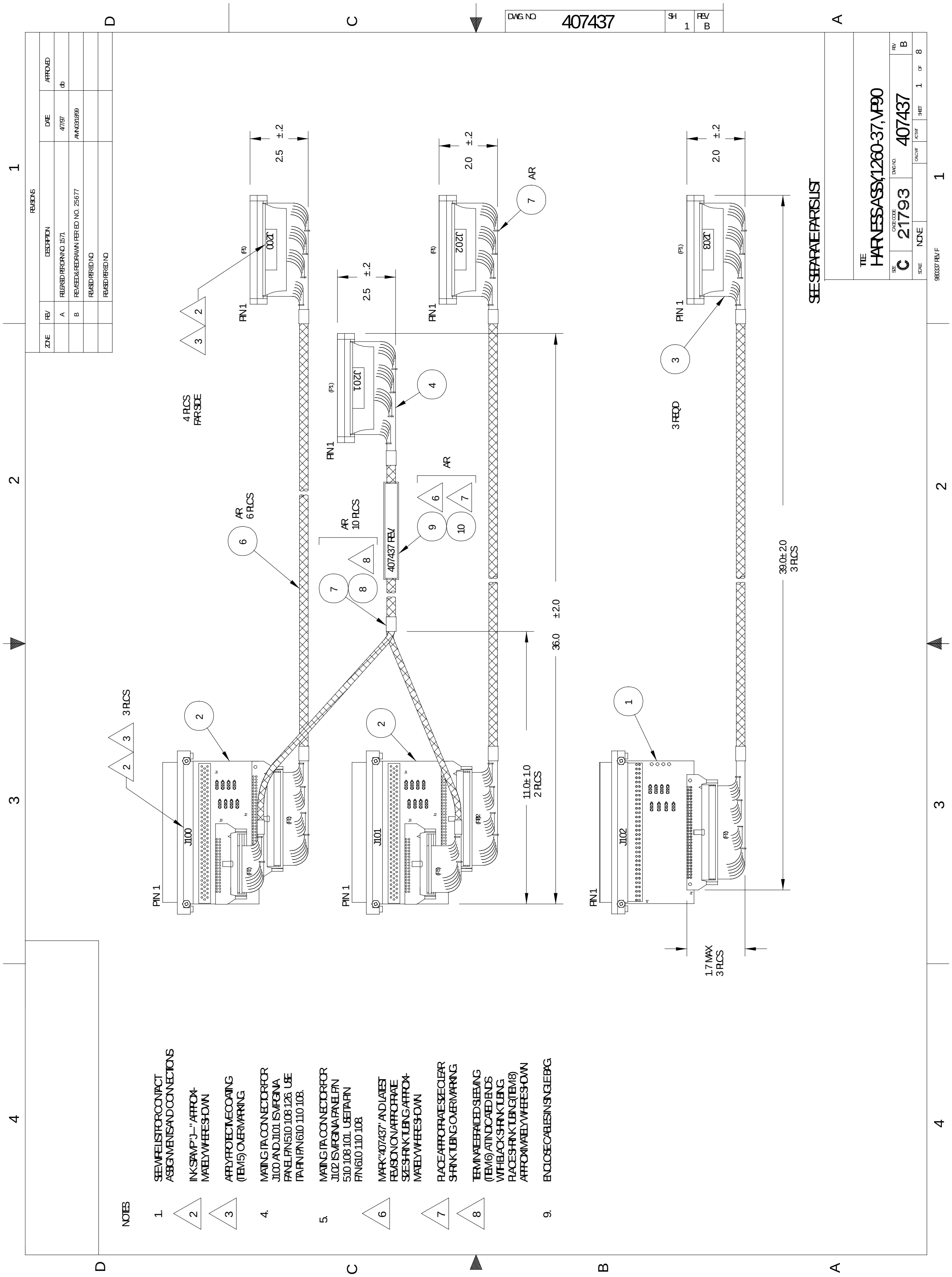
Each harness documentation consists of an assembly drawing, parts list, system wire list and wire list.

407437 Virginia Panel, Inc. Series VP90 Interface Harness

407438 TTI Testron, Inc. Interface Harness

For more information on the complete line of Test Receiver Interface solutions, contact our Customer Support Department.

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DWG NO
407437
SH 1
REV B
HARNESS ASSY,1260-37,VP90
SEE SEPARATE PARTS LIST
CAGE CODE
21793
407437
SCALE NONE
SHEET 1 OF 8
J100
J101
J102
J200
J201
J202
J203
PIN 1
407437 REV
36.0 ±2.0
39.0±2.0
3 PLCS
11.0±1.0
2 PLCS
1.7 MAX
3 PLCS
2.5 ±.2
2.0 ±.2
AR
4 PLCS
FAR SIDE
3 REQD
NOTES

From 407437 To 407437 Product Structure Report 3/18/99
By Assembly/Balloon No.

Assembly 407437 Low Level Cd 2
U/M EA HARNESS ASSY,1260-37,VP90 -D Rev Date 3/18/99 Revision B

Bal #	Component	Description	U/M	Qty Reqd	Ty	Engineer Txt
1	405084	PCB ASSY,VP90 INTFC,64CONTCT	EA	1.00000		J102
2	405085	PCB ASSY,VP90 INTFC,96CONTCT	EA	2.00000		J100,J101
3	407259	CABLE ASSY,IDC,64COND,VP90	EA	3.00000		
4	407258	CABLE ASSY,IDC,64SPLT,VP90	EA	1.00000		
5	910541	POLYURETHANE CONFORMAL COAT	EA	.00001		
6	GRP-110-1/2	TBGWOV-POY.250ID-BLACK	FT	.00001		
7	500005	TIE CORD NYLON	FT	.00001		
8	500017	TBGSRK-POF.500ID-BLACK	FT	.00001		
9	M23053/5-109-4	TBGSRK-POF.750ID-YELLOW	FT	.00001		
10	500104	TBGSRK-POF.750ID-CLEAR	FT	.00001		

** END OF DATA **

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK AA (J100)	Uxx-SLOT yy (J200,J201)	CABLE	407437		SYSTEM WIRE LIST
	BLK AA (J101)	Uxx-SLOT yy (J201,J202)	CABLE	407437		
	BLK AA (J102)	Uxx-SLOT yy (J203)	CABLE	407437		

This system wirelist serves as a template for incorporating this harness assembly into the overall system wirelist. It does not in any way affect the fabrication of this harness assembly.

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 2 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
1	J100-44	J200-A1	RED	407259	41.5"	SIGNAL GND
2	J100-76	J200-A2	BRN	407259	41.5"	SIGNAL GND
3	J100-13	J200-A3	BLK	407259	41.5"	CH23A
4	J100-46	J200-A4	WHT	407259	41.5"	CH22A
5	J100-78	J200-A5	GRY	407259	41.5"	CH21A
6	J100-15	J200-A6	VIO	407259	41.5"	CH20A
7	J100-48	J200-A7	BLU	407259	41.5"	CH19A
8	J100-80	J200-A8	GRN	407259	41.5"	CH18A
9	J100-17	J200-A9	YEL	407259	41.5"	COM4A
10	J100-50	J200-A10	ORN	407259	41.5"	CH17A
11	J100-82	J200-A11	RED	407259	41.5"	CH16A
12	J100-19	J200-A12	BRN	407259	41.5"	CH15A
13	J100-52	J200-A13	BLK	407259	41.5"	CH14A
14	J100-84	J200-A14	WHT	407259	41.5"	CH13A
15	J100-21	J200-A15	GRY	407259	41.5"	CH12A
16	J100-54	J200-A16	VIO	407259	41.5"	COM3A
17	J100-86	J200-A17	BLU	407259	41.5"	CH11A
18	J100-23	J200-A18	GRN	407259	41.5"	CH10A
19	J100-56	J200-A19	YEL	407259	41.5"	CH9A
20	J100-88	J200-A20	ORN	407259	41.5"	CH8A
21	J100-25	J200-A21	RED	407259	41.5"	CH7A
22	J100-58	J200-A22	BRN	407259	41.5"	CH6A
23	J100-90	J200-A23	BLK	407259	41.5"	COM2A
24	J100-27	J200-A24	WHT	407259	41.5"	CH5A
25	J100-60	J200-A25	GRY	407259	41.5"	CH4A
26	J100-92	J200-A26	VIO	407259	41.5"	CH3A
27	J100-29	J200-A27	BLU	407259	41.5"	CH2A
28	J100-62	J200-A28	GRN	407259	41.5"	CH1A
29	J100-94	J200-A29	YEL	407259	41.5"	CH0A
30	J100-31	J200-A30	ORN	407259	41.5"	COM1A
31	J100-64	J200-A31	RED	407259	41.5"	J200-B31
32	J100-96	J200-A32	BRN	407259	41.5"	ABUS1A
33	J100-75	J200-B1	TAN	407259	41.5"	SIGNAL GND
34	J100-12	J200-B2	TAN	407259	41.5"	SIGNAL GND
35	J100-45	J200-B3	TAN	407259	41.5"	CH23B
36	J100-77	J200-B4	TAN	407259	41.5"	CH22B
37	J100-14	J200-B5	TAN	407259	41.5"	CH21B
38	J100-47	J200-B6	TAN	407259	41.5"	CH20B
39	J100-79	J200-B7	TAN	407259	41.5"	CH19B
40	J100-16	J200-B8	TAN	407259	41.5"	CH18B
41	J100-49	J200-B9	TAN	407259	41.5"	COM4B
42	J100-81	J200-B10	TAN	407259	41.5"	CH17B
43	J100-18	J200-B11	TAN	407259	41.5"	CH16B
44	J100-51	J200-B12	TAN	407259	41.5"	CH15B
45	J100-83	J200-B13	TAN	407259	41.5"	CH14B
46	J100-20	J200-B14	TAN	407259	41.5"	CH13B
47	J100-53	J200-B15	TAN	407259	41.5"	CH12B
48	J100-85	J200-B16	TAN	407259	41.5"	COM3B

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 3 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
49	J100-22	J200-B17	TAN	407259	41.5"	CH11B
50	J100-55	J200-B18	TAN	407259	41.5"	CH10B
51	J100-87	J200-B19	TAN	407259	41.5"	CH9B
52	J100-24	J200-B20	TAN	407259	41.5"	CH8B
53	J100-57	J200-B21	TAN	407259	41.5"	CH7B
54	J100-89	J200-B22	TAN	407259	41.5"	CH6B
55	J100-26	J200-B23	TAN	407259	41.5"	COM2B
56	J100-59	J200-B24	TAN	407259	41.5"	CH5B
57	J100-91	J200-B25	TAN	407259	41.5"	CH4B
58	J100-28	J200-B26	TAN	407259	41.5"	CH3B
59	J100-61	J200-B27	TAN	407259	41.5"	CH2B
60	J100-93	J200-B28	TAN	407259	41.5"	CH1B
61	J100-30	J200-B29	TAN	407259	41.5"	CH0B
62	J100-63	J200-B30	TAN	407259	41.5"	COM1B
63	J100-95	J200-B31	TAN	407259	41.5"	J200-A31
64	J100-32	J200-B32	TAN	407259	41.5"	ABUS1B
65	J101-1	J201-A1	RED	407258	41.5"	COM19
66	J101-34	J201-A2	BRN	407258	41.5"	NO18
67	J101-66	J201-A3	BLK	407258	41.5"	NC18
68	J101-3	J201-A4	WHT	407258	41.5"	COM17
69	J101-36	J201-A5	GRY	407258	41.5"	NO16
70	J101-68	J201-A6	VIO	407258	41.5"	NC16
71	J101-5	J201-A7	BLU	407258	41.5"	COM15
72	J101-38	J201-A8	GRN	407258	41.5"	NO14
73	J101-70	J201-A9	YEL	407258	41.5"	NC14
74	J101-7	J201-A10	ORN	407258	41.5"	COM13
75	J101-40	J201-A11	RED	407258	41.5"	NO12
76	J101-72	J201-A12	BRN	407258	41.5"	NC12
77	J101-9	J201-A13	BLK	407258	41.5"	COM11
78	J101-42	J201-A14	WHT	407258	41.5"	NO10
79	J101-74	J201-A15	GRY	407258	41.5"	NC10
80	J101-11	J201-A16	VIO	407258	41.5"	COM9
81	J100-1	J201-A17	BLU	407258	41.5"	NO8
82	J100-34	J201-A18	GRN	407258	41.5"	NC8
83	J100-66	J201-A19	YEL	407258	41.5"	COM7
84	J100-3	J201-A20	ORN	407258	41.5"	NO6
85	J100-36	J201-A21	RED	407258	41.5"	NC6
86	J100-68	J201-A22	BRN	407258	41.5"	COM5
87	J100-5	J201-A23	BLK	407258	41.5"	NO4
88	J100-38	J201-A24	WHT	407258	41.5"	NC4
89	J100-70	J201-A25	GRY	407258	41.5"	COM3
90	J100-7	J201-A26	VIO	407258	41.5"	NO2
91	J100-40	J201-A27	BLU	407258	41.5"	NC2
92	J100-72	J201-A28	GRN	407258	41.5"	COM1
93	J100-9	J201-A29	YEL	407258	41.5"	NO0
94	J100-42	J201-A30	ORN	407258	41.5"	NC0

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 4 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
95	J100-74	J201-A31	RED	407258	41.5"	NO CONNECTION
96	J100-11	J201-A32	BRN	407258	41.5"	CHASSIS GND
97	J101-33	J201-B1	TAN	407258	41.5"	NO19
98	J101-65	J201-B2	TAN	407258	41.5"	NC19
99	J101-2	J201-B3	TAN	407258	41.5"	COM18
100	J101-35	J201-B4	TAN	407258	41.5"	NO17
101	J101-67	J201-B5	TAN	407258	41.5"	NC17
102	J101-4	J201-B6	TAN	407258	41.5"	COM16
103	J101-37	J201-B7	TAN	407258	41.5"	NO15
104	J101-69	J201-B8	TAN	407258	41.5"	NC15
105	J101-6	J201-B9	TAN	407258	41.5"	COM14
106	J101-39	J201-B10	TAN	407258	41.5"	NO13
107	J101-71	J201-B11	TAN	407258	41.5"	NC13
108	J101-8	J201-B12	TAN	407258	41.5"	COM12
109	J101-41	J201-B13	TAN	407258	41.5"	NO11
110	J101-73	J201-B14	TAN	407258	41.5"	NC11
111	J101-10	J201-B15	TAN	407258	41.5"	COM10
112	J101-43	J201-B16	TAN	407258	41.5"	NO9
113	J100-33	J201-B17	TAN	407258	41.5"	NC9
114	J100-65	J201-B18	TAN	407258	41.5"	COM8
115	J100-2	J201-B19	TAN	407258	41.5"	NO7
116	J100-35	J201-B20	TAN	407258	41.5"	NC7
117	J100-67	J201-B21	TAN	407258	41.5"	COM6
118	J100-4	J201-B22	TAN	407258	41.5"	NO5
119	J100-37	J201-B23	TAN	407258	41.5"	NC5
120	J100-69	J201-B24	TAN	407258	41.5"	COM4
121	J100-6	J201-B25	TAN	407258	41.5"	NO3
122	J100-39	J201-B26	TAN	407258	41.5"	NC3
123	J100-71	J201-B27	TAN	407258	41.5"	COM2
124	J100-8	J201-B28	TAN	407258	41.5"	NO1
125	J100-41	J201-B29	TAN	407258	41.5"	NC1
126	J100-73	J201-B30	TAN	407258	41.5"	COM0
127	J100-10	J201-B31	TAN	407258	41.5"	NO CONNECTION
128	J100-43	J201-B32	TAN	407258	41.5"	CHASSIS GND
129	J101-44	J202-A1	RED	407259	41.5"	SIGNAL GND
130	J101-76	J202-A2	BRN	407259	41.5"	SIGNAL GND
131	J101-13	J202-A3	BLK	407259	41.5"	CH47A
132	J101-46	J202-A4	WHT	407259	41.5"	CH46A
133	J101-78	J202-A5	GRY	407259	41.5"	CH45A
134	J101-15	J202-A6	VIO	407259	41.5"	CH44A
135	J101-48	J202-A7	BLU	407259	41.5"	CH43A
136	J101-80	J202-A8	GRN	407259	41.5"	CH42A
137	J101-17	J202-A9	YEL	407259	41.5"	COM8A
138	J101-50	J202-A10	ORN	407259	41.5"	CH41A
139	J101-82	J202-A11	RED	407259	41.5"	CH40A
140	J101-19	J202-A12	BRN	407259	41.5"	CH39A

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 5 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
141	J101-52	J202-A13	BLK	407259	41.5"	CH38A
142	J101-84	J202-A14	WHT	407259	41.5"	CH37A
143	J101-21	J202-A15	GRY	407259	41.5"	CH36A
144	J101-54	J202-A16	VIO	407259	41.5"	COM7A
145	J101-86	J202-A17	BLU	407259	41.5"	CH35A
146	J101-23	J202-A18	GRN	407259	41.5"	CH34A
147	J101-56	J202-A19	YEL	407259	41.5"	CH33A
148	J101-88	J202-A20	ORN	407259	41.5"	CH32A
149	J101-25	J202-A21	RED	407259	41.5"	CH31A
150	J101-58	J202-A22	BRN	407259	41.5"	CH30A
151	J101-90	J202-A23	BLK	407259	41.5"	COM6A
152	J101-27	J202-A24	WHT	407259	41.5"	CH29A
153	J101-60	J202-A25	GRY	407259	41.5"	CH28A
154	J101-92	J202-A26	VIO	407259	41.5"	CH27A
155	J101-29	J202-A27	BLU	407259	41.5"	CH26A
156	J101-62	J202-A28	GRN	407259	41.5"	CH25A
157	J101-94	J202-A29	YEL	407259	41.5"	CH24A
158	J101-31	J202-A30	ORN	407259	41.5"	COM5A
159	J101-64	J202-A31	RED	407259	41.5"	SIGNAL GND
160	J101-96	J202-A32	BRN	407259	41.5"	SIGNAL GND
161	J101-75	J202-B1	TAN	407259	41.5"	SIGNAL GND
162	J101-12	J202-B2	TAN	407259	41.5"	SIGNAL GND
163	J101-45	J202-B3	TAN	407259	41.5"	CH47A
164	J101-77	J202-B4	TAN	407259	41.5"	CH46B
165	J101-14	J202-B5	TAN	407259	41.5"	CH45B
166	J101-47	J202-B6	TAN	407259	41.5"	CH44B
167	J101-79	J202-B7	TAN	407259	41.5"	CH43B
168	J101-16	J202-B8	TAN	407259	41.5"	CH42B
169	J101-49	J202-B9	TAN	407259	41.5"	COM8B
170	J101-81	J202-B10	TAN	407259	41.5"	CH41B
171	J101-18	J202-B11	TAN	407259	41.5"	CH40B
172	J101-51	J202-B12	TAN	407259	41.5"	CH39B
173	J101-83	J202-B13	TAN	407259	41.5"	CH38B
174	J101-20	J202-B14	TAN	407259	41.5"	CH37B
175	J101-53	J202-B15	TAN	407259	41.5"	CH36B
176	J101-85	J202-B16	TAN	407259	41.5"	COM7B
177	J101-22	J202-B17	TAN	407259	41.5"	CH35B
178	J101-55	J202-B18	TAN	407259	41.5"	CH34B
179	J101-87	J202-B19	TAN	407259	41.5"	CH33B
180	J101-24	J202-B20	TAN	407259	41.5"	CH32B
181	J101-57	J202-B21	TAN	407259	41.5"	CH31B
182	J101-89	J202-B22	TAN	407259	41.5"	CH30B
183	J101-26	J202-B23	TAN	407259	41.5"	COM6B
184	J101-59	J202-B24	TAN	407259	41.5"	CH29B
185	J101-91	J202-B25	TAN	407259	41.5"	CH28B
186	J101-28	J202-B26	TAN	407259	41.5"	CH27B
187	J101-61	J202-B27	TAN	407259	41.5"	CH26B
188	J101-93	J202-B28	TAN	407259	41.5"	CH25B

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 6 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
189	J101-30	J202-B29	TAN	407259	41.5"	CH24B
190	J101-63	J202-B30	TAN	407259	41.5"	COM5B
191	J101-95	J202-B31	TAN	407259	41.5"	SIGNAL GND
192	J101-32	J202-B32	TAN	407259	41.5"	SIGNAL GND
193	J102-33	J203-A1	RED	407259	41.5"	COM39
194	J102-34	J203-A2	BRN	407259	41.5"	NO38
195	J102-35	J203-A3	BLK	407259	41.5"	NC38
196	J102-36	J203-A4	WHT	407259	41.5"	COM37
197	J102-37	J203-A5	GRY	407259	41.5"	NO36
198	J102-38	J203-A6	VIO	407259	41.5"	NC36
199	J102-39	J203-A7	BLU	407259	41.5"	COM35
200	J102-40	J203-A8	GRN	407259	41.5"	NO34
201	J102-41	J203-A9	YEL	407259	41.5"	NC34
202	J102-42	J203-A10	ORN	407259	41.5"	COM33
203	J102-43	J203-A11	RED	407259	41.5"	NO32
204	J102-44	J203-A12	BRN	407259	41.5"	NC32
205	J102-45	J203-A13	BLK	407259	41.5"	COM31
206	J102-46	J203-A14	WHT	407259	41.5"	NO30
207	J102-47	J203-A15	GRY	407259	41.5"	NC30
208	J102-48	J203-A16	VIO	407259	41.5"	COM29
209	J102-49	J203-A17	BLU	407259	41.5"	NO28
210	J102-50	J203-A18	GRN	407259	41.5"	NC28
211	J102-51	J203-A19	YEL	407259	41.5"	COM27
212	J102-52	J203-A20	ORN	407259	41.5"	NO26
213	J102-53	J203-A21	RED	407259	41.5"	NC26
214	J102-54	J203-A22	BRN	407259	41.5"	COM25
215	J102-55	J203-A23	BLK	407259	41.5"	NO24
216	J102-56	J203-A24	WHT	407259	41.5"	NC24
217	J102-57	J203-A25	GRY	407259	41.5"	COM23
218	J102-58	J203-A26	VIO	407259	41.5"	NO22
219	J102-59	J203-A27	BLU	407259	41.5"	NC22
220	J102-60	J203-A28	GRN	407259	41.5"	COM21
221	J102-61	J203-A29	YEL	407259	41.5"	NO20
222	J102-62	J203-A30	ORN	407259	41.5"	NC20
223	J102-63	J203-A31	RED	407259	41.5"	NO CONNECTION
224	J102-64	J203-A32	BRN	407259	41.5"	CHASSIS GND
225	J102-1	J203-B1	TAN	407259	41.5"	NO39
226	J102-2	J203-B2	TAN	407259	41.5"	NC39
227	J102-3	J203-B3	TAN	407259	41.5"	COM38
228	J102-4	J203-B4	TAN	407259	41.5"	NO37
229	J102-5	J203-B5	TAN	407259	41.5"	NC37
230	J102-6	J203-B6	TAN	407259	41.5"	COM36
231	J102-7	J203-B7	TAN	407259	41.5"	NO35
232	J102-8	J203-B8	TAN	407259	41.5"	NC35
233	J102-9	J203-B9	TAN	407259	41.5"	COM34
234	J102-10	J203-B10	TAN	407259	41.5"	NO33

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 7 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
235	J102-11	J203-B11	TAN	407259	41.5"	NC33
236	J102-12	J203-B12	TAN	407259	41.5"	COM32
237	J102-13	J203-B13	TAN	407259	41.5"	NO31
238	J102-14	J203-B14	TAN	407259	41.5"	NC31
239	J102-15	J203-B15	TAN	407259	41.5"	COM30
240	J102-16	J203-B16	TAN	407259	41.5"	NO29
241	J102-17	J203-B17	TAN	407259	41.5"	NC29
242	J102-18	J203-B18	TAN	407259	41.5"	COM28
243	J102-19	J203-B19	TAN	407259	41.5"	NO27
244	J102-20	J203-B20	TAN	407259	41.5"	NC27
245	J102-21	J203-B21	TAN	407259	41.5"	COM26
246	J102-22	J203-B22	TAN	407259	41.5"	NO25
247	J102-23	J203-B23	TAN	407259	41.5"	NC25
248	J102-24	J203-B24	TAN	407259	41.5"	COM24
249	J102-25	J203-B25	TAN	407259	41.5"	NO23
250	J102-26	J203-B26	TAN	407259	41.5"	NC23
251	J102-27	J203-B27	TAN	407259	41.5"	COM22
252	J102-28	J203-B28	TAN	407259	41.5"	NO21
253	J102-29	J203-B29	TAN	407259	41.5"	NC21
254	J102-30	J203-B30	TAN	407259	41.5"	COM20
255	J102-31	J203-B31	TAN	407259	41.5"	NO CONNECTION
256	J102-32	J203-B32	TAN	407259	41.5"	CHASSIS GND

DOC. NO. 407437

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, VP90	A	21793	407437	B
	DRN		SHEET 8 of 8	

DWG. NO. 407438 SH 1 REV. A

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	RELEASED PER DRN NO.		
		REVISED PER EO NO.		
		REVISED PER EO NO.		
		REVISED PER EO NO.		

CONNECTOR MARKING TABULATION

CONNECTOR	CABLE # 1	CABLE # 2	CABLE # 3	CABLE # 4
(P1)	J200	J201	J202	J203
(P2)	J100	J107	J114	J121
(P3)	J101	J108	J115	J122
(P4)	J102	J109	J116	J123
(P5)	J103	J110	J117	J124
(P6)	J104	J111	J118	J125
(P7)	J105	J112	J119	J126
(P8)	J106	J113	J120	J127

NOTES

1. CONNECTOR P2 THRU P8 TO BE FOLDED SO THAT PIN # 1 IS AT ONE SIDE OF CABLE ONLY AS SHOWN.

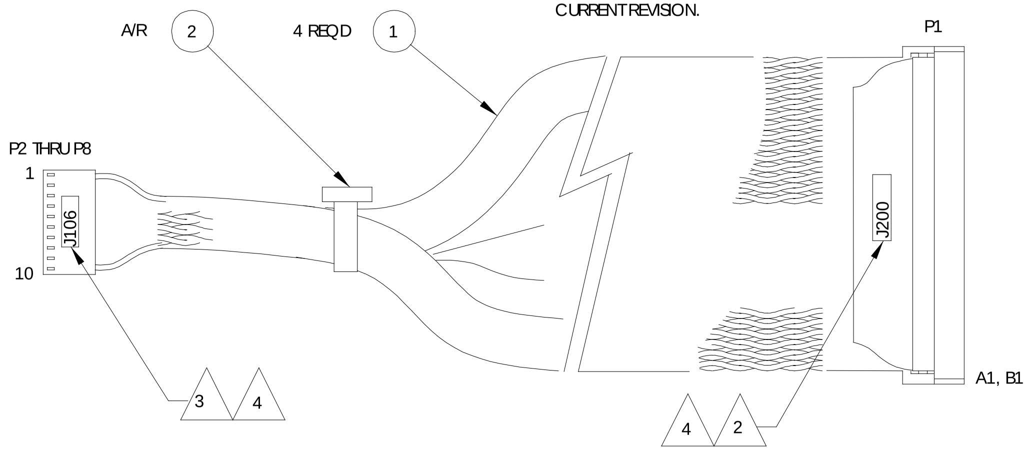
2. INK MARK J2-- AT P1 APPROX. WHERE SHOWN.

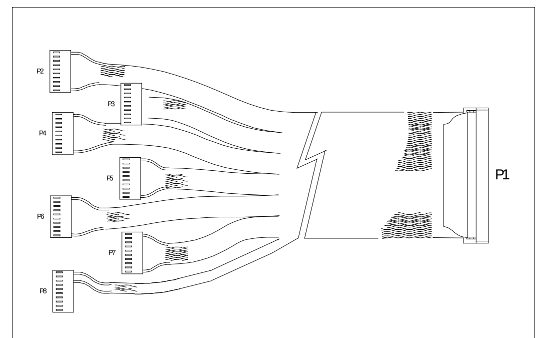
3. INK MARK J1-- PER TABULATION AT P2 THROUGH P8 APPROX. WHERE SHOWN. CABLE # 1 IS SHOWN ON TOP.

4. SPRAY PROTECTIVE COATING (ITEM 3) AFTER MARKING.

5. MATING RECEIVER BLOCK FOR CONNECTORS P2 THRU P8 IS TTI P/N VGRCB-170. RECEIVER BLOCK MATES WITH ITA BLOCK P/N VGFCB-170.

6. ENCLOSE CABLES IN SINGLE BAG AND IDENTIFY WITH PART NUMBER AND CURRENT REVISION.





REFERENCE ONLY
CABLE NOT FOLDED AT P2 THRU P8

TITLE HARNESS ASSY, 1260-37, TTI

SIZE	CAGE CODE	DWG NO.	REV.
B	21793	407438	A
SCALE NONE		CALC. WT / ACT WT	SHEET 1 1 OF

980340 REV. F

ENGINEERING PARTS LIST

ITEM	REV	PART NO.	DESCRIPTION	QTY	REFERENCE
1		407260	CABLE ASSY, IDC 64 COND, TTI	4	
2		610777	TIE-CA-LGK-.065-.075	A/R	
3		910541	POLYURETHANE CONF.COAT	A/R	

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 2 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK AAx RW 01 (J100)	Uxx-SLOT yy (J200)	CABLE	407438		SYSTEM WIRE LIST
	BLK AAx RW 02 (J101)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 03 (J102)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 04 (J103)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 05 (J104)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 06 (J105)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 07 (J106)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 08 (J107)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 09 (J108)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 10 (J109)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 11 (J110)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 12 (J111)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 13 (J112)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 14 (J113)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 15 (J114)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 16 (J115)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 17 (J116)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 01 (J117)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 02 (J118)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 03 (J119)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 04 (J120)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 05 (J121)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 06 (J122)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 07 (J123)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 08 (J124)	Uxx-SLOT yy (J203)	CABLE	407438		

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 3 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK AAx RW 09 (J125)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 10 (J126)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 11 (J127)	Uxx-SLOT yy (J203)	CABLE	407438		

This system wirelist serves as a template for incorporating this harness assembly into the overall system wirelist. It does not in any way affect the fabrication of this harness assembly.

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 4 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
1	J106-3	J200-A1	RED	407260	41.5"	SIGNAL GND
2	J106-1	J200-A2	BRN	407260	41.5"	SIGNAL GND
3	J105-2	J200-A3	BLK	407260	41.5"	CH23A
4	J105-4	J200-A4	WHT	407260	41.5"	CH22A
5	J105-6	J200-A5	GRY	407260	41.5"	CH21A
6	J105-8	J200-A6	VIO	407260	41.5"	CH20A
7	J105-10	J200-A7	BLU	407260	41.5"	CH19A
8	J104-9	J200-A8	GRN	407260	41.5"	CH18A
9	J104-7	J200-A9	YEL	407260	41.5"	COM4A
10	J104-5	J200-A10	ORN	407260	41.5"	CH17A
11	J104-3	J200-A11	RED	407260	41.5"	CH16A
12	J104-1	J200-A12	BRN	407260	41.5"	CH15A
13	J103-2	J200-A13	BLK	407260	41.5"	CH14A
14	J103-4	J200-A14	WHT	407260	41.5"	CH13A
15	J103-6	J200-A15	GRY	407260	41.5"	CH12A
16	J103-8	J200-A16	VIO	407260	41.5"	COM3A
17	J103-10	J200-A17	BLU	407260	41.5"	CH11A
18	J102-9	J200-A18	GRN	407260	41.5"	CH10A
19	J102-7	J200-A19	YEL	407260	41.5"	CH9A
20	J102-5	J200-A20	ORN	407260	41.5"	CH8A
21	J102-3	J200-A21	RED	407260	41.5"	CH7A
22	J102-1	J200-A22	BRN	407260	41.5"	CH6A
23	J101-2	J200-A23	BLK	407260	41.5"	COM2A
24	J101-4	J200-A24	WHT	407260	41.5"	CH5A
25	J101-6	J200-A25	GRY	407260	41.5"	CH4A
26	J101-8	J200-A26	VIO	407260	41.5"	CH3A
27	J101-10	J200-A27	BLU	407260	41.5"	CH2A
28	J100-9	J200-A28	GRN	407260	41.5"	CH1A
29	J100-7	J200-A29	YEL	407260	41.5"	CH0A
30	J100-5	J200-A30	ORN	407260	41.5"	COM1A
31	J100-3	J200-A31	RED	407260	41.5"	J200-B31
32	J100-1	J200-A32	BRN	407260	41.5"	ABUS1A
33	J106-4	J200-B1	TAN	407260	41.5"	SIGNAL GND
34	J106-2	J200-B2	TAN	407260	41.5"	SIGNAL GND
35	J105-1	J200-B3	TAN	407260	41.5"	CH23B
36	J105-3	J200-B4	TAN	407260	41.5"	CH22B
37	J105-5	J200-B5	TAN	407260	41.5"	CH21B
38	J105-7	J200-B6	TAN	407260	41.5"	CH20B
39	J105-9	J200-B7	TAN	407260	41.5"	CH19B
40	J104-10	J200-B8	TAN	407260	41.5"	CH18B
41	J104-8	J200-B9	TAN	407260	41.5"	COM4B
42	J104-6	J200-B10	TAN	407260	41.5"	CH17B
43	J104-4	J200-B11	TAN	407260	41.5"	CH16B
44	J104-2	J200-B12	TAN	407260	41.5"	CH15B
45	J103-1	J200-B13	TAN	407260	41.5"	CH14B
46	J103-3	J200-B14	TAN	407260	41.5"	CH13B
47	J103-5	J200-B15	TAN	407260	41.5"	CH12B
48	J103-7	J200-B16	TAN	407260	41.5"	COM3B

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 5 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
49	J103-9	J200-B17	TAN	407260	41.5"	CH11B
50	J102-10	J200-B18	TAN	407260	41.5"	CH10B
51	J102-8	J200-B19	TAN	407260	41.5"	CH9B
52	J102-6	J200-B20	TAN	407260	41.5"	CH8B
53	J102-4	J200-B21	TAN	407260	41.5"	CH7B
54	J102-2	J200-B22	TAN	407260	41.5"	CH6B
55	J101-1	J200-B23	TAN	407260	41.5"	COM2B
56	J101-3	J200-B24	TAN	407260	41.5"	CH5B
57	J101-5	J200-B25	TAN	407260	41.5"	CH4B
58	J101-7	J200-B26	TAN	407260	41.5"	CH3B
59	J101-9	J200-B27	TAN	407260	41.5"	CH2B
60	J100-10	J200-B28	TAN	407260	41.5"	CH1B
61	J100-8	J200-B29	TAN	407260	41.5"	CH0B
62	J100-6	J200-B30	TAN	407260	41.5"	COM1B
63	J100-4	J200-B31	TAN	407260	41.5"	J200-A31
64	J100-2	J200-B32	TAN	407260	41.5"	ABUS1B
65	J113-3	J201-A1	RED	407260	41.5"	COM19
66	J113-1	J201-A2	BRN	407260	41.5"	NO18
67	J112-2	J201-A3	BLK	407260	41.5"	NC18
68	J112-4	J201-A4	WHT	407260	41.5"	COM17
69	J112-6	J201-A5	GRY	407260	41.5"	NO16
70	J112-8	J201-A6	VIO	407260	41.5"	NC16
71	J112-10	J201-A7	BLU	407260	41.5"	COM15
72	J111-9	J201-A8	GRN	407260	41.5"	NO14
73	J111-7	J201-A9	YEL	407260	41.5"	NC14
74	J111-5	J201-A10	ORN	407260	41.5"	COM13
75	J111-3	J201-A11	RED	407260	41.5"	NO12
76	J111-1	J201-A12	BRN	407260	41.5"	NC12
77	J110-2	J201-A13	BLK	407260	41.5"	COM11
78	J110-4	J201-A14	WHT	407260	41.5"	NO10
79	J110-6	J201-A15	GRY	407260	41.5"	NC10
80	J110-8	J201-A16	VIO	407260	41.5"	COM9
81	J110-10	J201-A17	BLU	407260	41.5"	NO8
82	J109-9	J201-A18	GRN	407260	41.5"	NC8
83	J109-7	J201-A19	YEL	407260	41.5"	COM7
84	J109-5	J201-A20	ORN	407260	41.5"	NO6
85	J109-3	J201-A21	RED	407260	41.5"	NC6
86	J109-1	J201-A22	BRN	407260	41.5"	COM5
87	J108-2	J201-A23	BLK	407260	41.5"	NO4
88	J108-4	J201-A24	WHT	407260	41.5"	NC4
89	J108-6	J201-A25	GRY	407260	41.5"	COM3
90	J108-8	J201-A26	VIO	407260	41.5"	NO2
91	J108-10	J201-A27	BLU	407260	41.5"	NC2
92	J107-9	J201-A28	GRN	407260	41.5"	COM1
93	J107-7	J201-A29	YEL	407260	41.5"	NO0
94	J107-5	J201-A30	ORN	407260	41.5"	NC0
95	J107-3	J201-A31	RED	407260	41.5"	NO CONNECTION
96	J107-1	J201-A32	BRN	407260	41.5"	CHASSIS GND

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 6 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
97	J113-4	J201-B1	TAN	407260	41.5"	NO19
98	J113-2	J201-B2	TAN	407260	41.5"	NC19
99	J112-1	J201-B3	TAN	407260	41.5"	COM18
100	J112-3	J201-B4	TAN	407260	41.5"	NO17
101	J112-5	J201-B5	TAN	407260	41.5"	NC17
102	J112-7	J201-B6	TAN	407260	41.5"	COM16
103	J112-9	J201-B7	TAN	407260	41.5"	NO15
104	J111-10	J201-B8	TAN	407260	41.5"	NC15
105	J111-8	J201-B9	TAN	407260	41.5"	COM14
106	J111-6	J201-B10	TAN	407260	41.5"	NO13
107	J111-4	J201-B11	TAN	407260	41.5"	NC13
108	J111-2	J201-B12	TAN	407260	41.5"	COM12
109	J110-1	J201-B13	TAN	407260	41.5"	NO11
110	J110-3	J201-B14	TAN	407260	41.5"	NC11
111	J110-5	J201-B15	TAN	407260	41.5"	COM10
112	J110-7	J201-B16	TAN	407260	41.5"	NO9
113	J110-9	J201-B17	TAN	407260	41.5"	NC9
114	J109-10	J201-B18	TAN	407260	41.5"	COM8
115	J109-8	J201-B19	TAN	407260	41.5"	NO7
116	J109-6	J201-B20	TAN	407260	41.5"	NC7
117	J109-4	J201-B21	TAN	407260	41.5"	COM6
118	J109-2	J201-B22	TAN	407260	41.5"	NO5
119	J108-1	J201-B23	TAN	407260	41.5"	NC5
120	J108-3	J201-B24	TAN	407260	41.5"	COM4
121	J108-5	J201-B25	TAN	407260	41.5"	NO3
122	J108-7	J201-B26	TAN	407260	41.5"	NC3
123	J108-9	J201-B27	TAN	407260	41.5"	COM2
124	J107-10	J201-B28	TAN	407260	41.5"	NO1
125	J107-8	J201-B29	TAN	407260	41.5"	NC1
126	J107-6	J201-B30	TAN	407260	41.5"	COM0
127	J107-4	J201-B31	TAN	407260	41.5"	NO CONNECTION
128	J107-2	J201-B32	TAN	407260	41.5"	CHASSIS GND
129	J120-3	J202-A1	RED	407260	41.5"	SIGNAL GND
130	J120-1	J202-A2	BRN	407260	41.5"	SIGNAL GND
131	J119-2	J202-A3	BLK	407260	41.5"	CH47A
132	J119-4	J202-A4	WHT	407260	41.5"	CH46A
133	J119-6	J202-A5	GRY	407260	41.5"	CH45A
134	J119-8	J202-A6	VIO	407260	41.5"	CH44A
135	J119-10	J202-A7	BLU	407260	41.5"	CH43A
136	J118-9	J202-A8	GRN	407260	41.5"	CH42A
137	J118-7	J202-A9	YEL	407260	41.5"	COM8A
138	J118-5	J202-A10	ORN	407260	41.5"	CH41A
139	J118-3	J202-A11	RED	407260	41.5"	CH40A
140	J118-1	J202-A12	BRN	407260	41.5"	CH39A
141	J117-2	J202-A13	BLK	407260	41.5"	CH38A
142	J117-4	J202-A14	WHT	407260	41.5"	CH37A

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 7 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
143	J117-6	J202-A15	GRY	407260	41.5"	CH36A
144	J117-8	J202-A16	VIO	407260	41.5"	COM7A
145	J117-10	J202-A17	BLU	407260	41.5"	CH35A
146	J116-9	J202-A18	GRN	407260	41.5"	CH34A
147	J116-7	J202-A19	YEL	407260	41.5"	CH33A
148	J116-5	J202-A20	ORN	407260	41.5"	CH32A
149	J116-3	J202-A21	RED	407260	41.5"	CH31A
150	J116-1	J202-A22	BRN	407260	41.5"	CH30A
151	J115-2	J202-A23	BLK	407260	41.5"	COM6A
152	J115-4	J202-A24	WHT	407260	41.5"	CH29A
153	J115-6	J202-A25	GRY	407260	41.5"	CH28A
154	J115-8	J202-A26	VIO	407260	41.5"	CH27A
155	J115-10	J202-A27	BLU	407260	41.5"	CH26A
156	J114-9	J202-A28	GRN	407260	41.5"	CH25A
157	J114-7	J202-A29	YEL	407260	41.5"	CH24A
158	J114-5	J202-A30	ORN	407260	41.5"	COM5A
159	J114-3	J202-A31	RED	407260	41.5"	SIGNAL GND
160	J114-1	J202-A32	BRN	407260	41.5"	SIGNAL GND
161	J120-4	J202-B1	TAN	407260	41.5"	SIGNAL GND
162	J120-2	J202-B2	TAN	407260	41.5"	COM17
163	J119-1	J202-B3	TAN	407260	41.5"	CH47B
164	J119-3	J202-B4	TAN	407260	41.5"	CH46B
165	J119-5	J202-B5	TAN	407260	41.5"	CH45B
166	J119-7	J202-B6	TAN	407260	41.5"	CH44B
167	J119-9	J202-B7	TAN	407260	41.5"	CH43B
168	J118-10	J202-B8	TAN	407260	41.5"	CH42B
169	J118-8	J202-B9	TAN	407260	41.5"	COM8B
170	J118-6	J202-B10	TAN	407260	41.5"	CH41B
171	J118-4	J202-B11	TAN	407260	41.5"	CH40B
172	J118-2	J202-B12	TAN	407260	41.5"	CH39B
173	J117-1	J202-B13	TAN	407260	41.5"	CH38B
174	J117-3	J202-B14	TAN	407260	41.5"	CH37B
175	J117-5	J202-B15	TAN	407260	41.5"	CH36B
176	J117-7	J202-B16	TAN	407260	41.5"	COM7B
177	J117-9	J202-B17	TAN	407260	41.5"	CH35B
178	J116-10	J202-B18	TAN	407260	41.5"	CH34B
179	J116-8	J202-B19	TAN	407260	41.5"	CH33B
180	J116-6	J202-B20	TAN	407260	41.5"	CH32B
181	J116-4	J202-B21	TAN	407260	41.5"	CH31B
182	J116-2	J202-B22	TAN	407260	41.5"	CH30B
183	J115-1	J202-B23	TAN	407260	41.5"	COM6B
184	J115-3	J202-B24	TAN	407260	41.5"	CH29B
185	J115-5	J202-B25	TAN	407260	41.5"	CH28B
186	J115-7	J202-B26	TAN	407260	41.5"	CH27B
187	J115-9	J202-B27	TAN	407260	41.5"	CH26B
188	J114-10	J202-B28	TAN	407260	41.5"	CH25B
189	J114-8	J202-B29	TAN	407260	41.5"	CH24B
190	J114-6	J202-B30	TAN	407260	41.5"	COM5B

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 8 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
191	J114-4	J202-B31	TAN	407260	41.5"	SIGNAL GND
192	J114-2	J202-B32	TAN	407260	41.5"	SIGNAL GND
193	J127-3	J203-A1	RED	407260	41.5"	COM39
194	J127-1	J203-A2	BRN	407260	41.5"	NO38
195	J126-2	J203-A3	BLK	407260	41.5"	NC38
196	J126-4	J203-A4	WHT	407260	41.5"	COM37
197	J126-6	J203-A5	GRY	407260	41.5"	NO36
198	J126-8	J203-A6	VIO	407260	41.5"	NC36
199	J126-10	J203-A7	BLU	407260	41.5"	COM35
200	J125-9	J203-A8	GRN	407260	41.5"	NO34
201	J125-7	J203-A9	YEL	407260	41.5"	NC34
202	J125-5	J203-A10	ORN	407260	41.5"	COM33
203	J125-3	J203-A11	RED	407260	41.5"	NO32
204	J125-1	J203-A12	BRN	407260	41.5"	NC32
205	J124-2	J203-A13	BLK	407260	41.5"	COM31
206	J124-4	J203-A14	WHT	407260	41.5"	NO30
207	J124-6	J203-A15	GRY	407260	41.5"	NC30
208	J124-8	J203-A16	VIO	407260	41.5"	COM29
209	J124-10	J203-A17	BLU	407260	41.5"	NO28
210	J123-9	J203-A18	GRN	407260	41.5"	NC28
211	J123-7	J203-A19	YEL	407260	41.5"	COM27
212	J123-5	J203-A20	ORN	407260	41.5"	NO26
213	J123-3	J203-A21	RED	407260	41.5"	NC26
214	J123-1	J203-A22	BRN	407260	41.5"	COM25
215	J122-2	J203-A23	BLK	407260	41.5"	NO24
216	J122-4	J203-A24	WHT	407260	41.5"	NC24
217	J122-6	J203-A25	GRY	407260	41.5"	COM23
218	J122-8	J203-A26	VIO	407260	41.5"	NO22
219	J122-10	J203-A27	BLU	407260	41.5"	NC22
220	J121-9	J203-A28	GRN	407260	41.5"	COM21
221	J121-7	J203-A29	YEL	407260	41.5"	NO20
222	J121-5	J203-A30	ORN	407260	41.5"	NC20
223	J121-3	J203-A31	RED	407260	41.5"	NO CONNECTION
224	J121-1	J203-A32	BRN	407260	41.5"	CHASSIS GND
225	J127-4	J203-B1	TAN	407260	41.5"	NO39
226	J127-2	J203-B2	TAN	407260	41.5"	NC39
227	J126-1	J203-B3	TAN	407260	41.5"	COM38
228	J126-3	J203-B4	TAN	407260	41.5"	NO37
229	J126-5	J203-B5	TAN	407260	41.5"	NC37
230	J126-7	J203-B6	TAN	407260	41.5"	COM36
231	J126-9	J203-B7	TAN	407260	41.5"	NO35
232	J125-10	J203-B8	TAN	407260	41.5"	NC35
233	J125-8	J203-B9	TAN	407260	41.5"	COM34
234	J125-6	J203-B10	TAN	407260	41.5"	NO33
235	J125-4	J203-B11	TAN	407260	41.5"	NC33
236	J125-2	J203-B12	TAN	407260	41.5"	COM32

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN			SHEET 9 of 11

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
237	J124-1	J203-B13	TAN	407260	41.5"	NO31
238	J124-3	J203-B14	TAN	407260	41.5"	NC31
239	J124-5	J203-B15	TAN	407260	41.5"	COM30
240	J124-7	J203-B16	TAN	407260	41.5"	NO29
241	J124-9	J203-B17	TAN	407260	41.5"	NC29
242	J123-10	J203-B18	TAN	407260	41.5"	COM28
243	J123-8	J203-B19	TAN	407260	41.5"	NO27
244	J123-6	J203-B20	TAN	407260	41.5"	NC27
245	J123-4	J203-B21	TAN	407260	41.5"	COM26
246	J123-2	J203-B22	TAN	407260	41.5"	NO25
247	J122-1	J203-B23	TAN	407260	41.5"	NC25
248	J122-3	J203-B24	TAN	407260	41.5"	COM24
249	J122-5	J203-B25	TAN	407260	41.5"	NO23
250	J122-7	J203-B26	TAN	407260	41.5"	NC23
251	J122-9	J203-B27	TAN	407260	41.5"	COM22
252	J121-10	J203-B28	TAN	407260	41.5"	NO21
253	J121-8	J203-B29	TAN	407260	41.5"	NC21
254	J121-6	J203-B30	TAN	407260	41.5"	COM20
255	J121-4	J203-B31	TAN	407260	41.5"	NO CONNECTION
256	J121-2	J203-B32	TAN	407260	41.5"	CHASSIS GND
257	J106-5	NO CONNECT				
258	J106-6	NO CONNECT				
259	J106-7	NO CONNECT				
260	J106-8	NO CONNECT				
261	J106-9	NO CONNECT				
262	J106-10	NO CONNECT				
263	J113-5	NO CONNECT				
264	J113-6	NO CONNECT				
265	J113-7	NO CONNECT				
266	J113-8	NO CONNECT				
267	J113-9	NO CONNECT				
268	J113-10	NO CONNECT				
269	J120-5	NO CONNECT				
270	J120-6	NO CONNECT				
271	J120-7	NO CONNECT				
272	J120-8	NO CONNECT				
273	J120-9	NO CONNECT				
274	J120-10	NO CONNECT				
275	J127-5	NO CONNECT				
276	J127-6	NO CONNECT				
277	J127-7	NO CONNECT				
278	J127-8	NO CONNECT				

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 10 of 11	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
279	J127-9	NO CONNECT				
280	J127-10	NO CONNECT				

DOC. NO. 407438

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI	A	21793	407438	A
	DRN		SHEET 11 of 11	